



## CLAIMS

What is claimed and desired to be secured by United States Letters Patent is:

1. A method for generating a sequence of hypotheses, comprising:
  - providing a training set of examples to be classified, said training set of examples having an output variable to be predicted containing N target classes;
  - providing a learning means for receiving a subset of said training set of examples and generating an initial hypothesis therefrom, said initial hypothesis predicting a target class for each of said training set of examples;
  - providing a correction means for creating a correction set of examples via a computer-human interface wherein a user validates and corrects the target class of a set of examples beyond said training set of examples, said correction set of examples having an output variable to be predicted containing up to said N target classes;
  - providing a retraining means for said learning means to receive a subset of said correction set of examples and a subset of said training set of examples, and generating a retraining hypothesis therefrom;
  - providing a refinement means of appending the end of a sequence of hypotheses with said retraining hypothesis creating a resulting sequence of hypotheses, said resulting sequence of hypotheses predicting the target class of each example;
  - providing a refinement means of replacing the last hypothesis of said sequence of hypotheses with said retraining hypothesis and the resulting sequence of hypotheses predicting the target class of each example; and
  - repeating the said correction means, said retraining means, and said refinement means process.
2. The method for generating a sequence of hypotheses of claim 1 wherein said learning means further comprises providing an inductive learning algorithm approach.
3. The method for generating a sequence of hypotheses of claim 1 wherein said learning means further comprises providing a neural network approach.

4. The method for generating a sequence of hypotheses of claim 1 wherein said learning means further comprises providing a decision tree approach.
5. The method for generating a sequence of hypotheses of claim 1 wherein said learning means further comprises providing a Bayesian learning approach.
6. The method for generating a sequence of hypotheses of claim 1 wherein said learning means further comprises providing a linear or nonlinear regression approach.
7. The method for generating a sequence of hypotheses of claim 1 wherein said learning means further comprises providing an instance-based learning approach.
8. The method for generating a sequence of hypotheses of claim 1 wherein said learning means further comprises providing a nearest-neighbor learning approach.
9. The method for generating a sequence of hypotheses of claim 1 wherein said learning means further comprises providing a connectionist learning approach.
10. The method for generating a sequence of hypotheses of claim 1 wherein said learning means further comprises providing a rule-based learning approach.
11. The method for generating a sequence of hypotheses of claim 1 wherein said learning means further comprises providing a pattern recognizer learning approach.
12. The method for generating a sequence of hypotheses of claim 1 wherein said learning means further comprises providing a reinforcement learning approach.
13. The method for generating a sequence of hypotheses of claim 1 wherein said learning means further comprises providing a support vector machine learning approach.
14. The method for generating a sequence of hypotheses of claim 1 wherein said learning means further comprises providing an ensemble learning approach.
15. The method for generating a sequence of hypotheses of claim 1 wherein said learning means further comprises providing a theory-refinement learning approach.
16. The method for generating a sequence of hypotheses of claim 1 wherein said retraining means further comprises providing a method of combining the said training set of examples with the said correction set of examples.

17. A device, for running on a computer, for generating a sequence of hypotheses, comprising:

an input means for receiving a training set of examples, said training set of examples having an output variable to be predicted containing N target classes;

a learning means for receiving a subset of said training set of examples and generating an initial hypothesis therefrom, said initial hypothesis predicting a target class for each of said training set examples;

a correction means for creating a correction set of examples via a computer-human interface wherein a user validates and corrects the predicted target class of a set of examples beyond said training set of examples, said correction set of examples having an output variable to be predicted containing up to said N target classes;

a retraining means for said learning means to receive a subset of said correction set of examples and a subset of said training set of examples, and generating a retraining hypothesis therefrom;

a refinement means of appending the end of a sequence of hypotheses with said retraining hypothesis creating a resulting sequence of hypotheses, said resulting sequence of hypotheses predicting the target class of each example;

a refinement means of replacing the last hypothesis of said sequence of hypotheses with said retraining hypothesis and the resulting sequence of hypotheses predicting the target class of each example; and

a repeating means, for repeating the said correction means, said retraining means, and said refinement means process.